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AMENDMENT TO THE CLAIMS:

The following list of claims shall replace all prior listings or versions of the claims in the present application.

1. (Currently amended) A method of enhancing the effects of radiation directed to a tissue or a population of cells in an animal comprising administering an amount of metal nanoparticles to said animal and subsequently irradiating the animal with radiation directed to said tissue or said population of cells.

2. (Original) A method of ablating a tissue or a population of cells in an animal comprising administering an amount of metal nanoparticles to said animal and subsequently irradiating the animal with radiation directed to said tissue or said population of cells.

3. (Original) The method of claim 1 or 2, wherein said animal is human.

4. (Original) The method of claim 1 or 2, wherein said tissue or said population of cells is tumor.

5. (Original) The method of claim 4, wherein said tumor is a solid tumor selected from the group consisting of carcinomas, brain tumor, melanomas, lymphomas, plasmocytoma, sarcoma, glioma and thymoma.

6. (Original) The method of claim 4, wherein said tumor is myeloma, leukemia, or a tumor of oral cavity, pharynx, digestive system, respiratory system, bones, joints, soft tissue, skin, breast, genital system, urinary system, eye, orbit, the nervous system, or endocrine system.

7. (Original) The method of claim 1 or 2, wherein said tissue or said population of cells are selected from plaques of blood vessels, mesangial cells or basement membrane of kidney, adipocytes, infected lung cells, infected red blood cells, or bone tissue.

8. (Original) The method of claim 1 or 2, wherein said metal nanoparticles comprise at least one heavy metal selected from the group consisting of gold, silver, platinum, palladium, cobalt, iron, copper, tin, tantalum, vanadium, molybdenum, tungsten, osmium, iridium, rhenium, hafnium, thallium, lead, bismuth, gadolinium, dysprosium, holmium, and uranium.

9. (Original) The method of claim 8, wherein said metal nanoparticles comprise at least gold.

10. (Original) The method of claim 8, wherein said nanoparticles comprise at least two heavy metals from said group.

11. (Currently amended) The method of claim 1 or 2, wherein the size of the metal ~~core~~cores of said nanoparticles is in the range of 0.8 to 400 nm in diameter.

12. (Currently amended) The method of claim 11, wherein the size of the metal ~~core~~cores is 0.8-3 nm and wherein said metal is gold.

13. (Currently amended) The method of claim 11, wherein the size of the metal ~~core~~cores is 1-2 nm and wherein said metal is gold.

14. (Original) The method of claim 1 or 2, wherein said metal nanoparticles comprise a surface layer material.

15. (Original) The method of claim 14, wherein said surface layer material comprises a molecule comprising a sulfur, phosphorus or amine group.

16. (Original) The method of claim 15, wherein said molecule is thioglucose.

17. (Original) The method of claim 14, wherein said surface layer material is a molecule selected from the group consisting of a synthetic polymer, a peptide or polypeptide, an antibody or a fragment thereof, a nucleic acid, a carbohydrate molecule, a lipid molecule, a drug, or synthetic molecule.

18. (Original) The method of claim 1 or 2, wherein said nanoparticles are polyanions of metals complexed with quaternary ammonium salts for use in radiation enhancement.

19. (Original) The method of claim 1 or 2, wherein said metal nanoparticles comprises a targeting molecule, wherein said targeting molecule binds specifically to molecules localized within said tissue or said population of cells.

20. (Original) The method of claim 19, wherein said targeting molecule is a peptide or an antibody.

21. (Original) The method of claim 19, wherein said tissue or said population of cells is tumor and said targeting molecule binds specifically to angiogenic molecules in the endothelium of said tumor.

22. (Original) The method of claim 1 or 2, wherein said metal nanoparticles are administered to said animal by intravenous or intra-aretrial injection, direct injection into said tissue or population of cells, implantation of a device capable of a slow release of said metal nanoparticles, or injection into a body cavity.

23. (Currently amended) The method of claim 1 or 2, wherein said metal nanoparticles are administered to said animal in an amount to achieve a concentration <u>in said tissue or said population of cells</u> in the animal of at least about 0.1% metal by weight.

24. (Original) The method of claim 1 or 2, wherein said radiation is in a form selected from x-rays, microbeam arrays of x-rays, radioisotopes, visible light, lasers, infrared, microwave, radio frequencies, ultraviolet radiation, electrons, protons, ion beams, or neutrons.

25. (Original) The method of claim 24, wherein said radiation is in the form of x-rays of about 1 KeV to about 25,000 KeV.

26. (Original) A method of ablating a population of cells from a tissue in an animal comprising removing said tissue from said animal, admixing an amount of metal nanoparticles with said tissue *ex vivo* wherein said metal nanoparticles bind specifically to said population of cells, and irradiating said tissue to ablate said population of cells.

27. (Original) The method of claim 26, wherein said animal is human.

28. (Original) The method of claim 26, wherein said tissue is blood, bone marrow or a lymphoid tissue.

29. (Original) The method of claim 26, wherein said metal nanoparticles comprise at least one heavy metal selected from the group consisting of gold, silver, platinum, palladium, cobalt, iron, copper, tin, tantalum, vanadium, molybdenum, tungsten, osmium, iridium, rhenium, hafnium, thallium, lead, bismuth, gadolinium, dysprosium, holmium, and uranium.

30. (Original) The method of claim 29, wherein said metal nanoparticles comprise at least gold.

31. (Original) The method of claim 29, wherein said nanoparticles comprise at least two heavy metals from said group.

32. (Currently amended) The method of claim 26, wherein the size of the metal ~~core~~cores of said nanoparticles is in the range of 0.8 to 400 nm in diameter.

33. (Currently amended) The method of claim 32, wherein the size of the metal ~~core~~cores is 0.8-3 nm and wherein said metal is gold.

34. (Original) The method of claim 26, wherein said metal nanoparticles comprise a surface layer material.

35. (Original) The method of claim 34, wherein said surface layer material comprises a molecule comprising a sulfur, phosphorus or amine group.

36. (Original) The method of claim 34, wherein said molecule is thioglucose.

37. (Original) The method of claim 34, wherein said surface layer material is a molecule selected from the group consisting of a synthetic polymer, a peptide or polypeptide, an antibody or a fragment thereof, a nucleic acid, a carbohydrate molecule, a lipid molecule, a drug, or synthetic molecule.

38. (Original) The method of claim 26, wherein said nanoparticles are polyanions of metals complexed with quaternary ammonium salts for use in radiation enhancement.

39. (Original) The method of claim 26, wherein said metal nanoparticles comprises a targeting molecule, wherein said targeting molecule binds specifically to said population of cells.

40. (Original) The method of claim 39, wherein said targeting molecule is a peptide or an antibody.

41. (Currently amended) The method of claim 26, wherein said metal nanoparticles are admixed with said tissue to achieve a concentration in ~~the mixture~~said tissue of at least about 0.1% metal by weight.

42. (Original) The method of claim 26, wherein said radiation is in a form selected from x-rays, microbeam arrays of x-rays, radioisotopes, visible light, lasers, infrared, microwave, radio frequencies, ultraviolet radiation, electrons, protons, ion beams, or neutrons.

43. (Original) The method of claim 42, wherein said radiation is in the form of x-rays of about 1 KeV to about 25,000 KeV.